

**CLAIMS**

What is claimed is:

1. A method, comprising:

2       depositing a switching fluid with a surface area on a first substrate;  
          coating the surface area of the switching fluid with a corrosion inhibitor;  
4       and  
          mating the first substrate to a second substrate, the first substrate and the  
6       second substrate defining therebetween a cavity holding the switching fluid, the  
          cavity being sized to allow movement of the switching fluid between first and  
8       second states.

2. The method of claim 1, wherein the corrosion inhibitor comprises an inert oily

2       substance.

3. The method of claim 1, wherein the corrosion inhibitor comprises a chemical

2       reducing substance.

4. The method of claim 1, wherein the corrosion inhibitor comprises Cortec VCI-

2       369.

5. The method of claim 1, wherein the corrosion inhibitor comprises Cortec VCI-

2 327.

6. The switch of claim 1, wherein the switch is a liquid metal switch.

7. The switch of claim 1, wherein the switching fluid comprises mercury.

8. The switch of claim 7, wherein the corrosion inhibitor comprises an inert oil

2 and a chemical reducer.

9. The switch of claim 1, wherein the switching fluid comprises a gallium alloy.

10. The switch of claim 9, where the corrosion inhibitor comprises an inert oil

2 and a chemical reducing substance.

11. A switch comprising:

2 first and second mated substrates defining therebetween at least portions  
of a number of cavities;

4 a plurality of electrodes exposed within one or more of the cavities;

a switching fluid, held within a first one of the cavities, that serves to open

6 and close at least a pair of the plurality of electrodes in response to forces that  
are applied to the switching fluid;

8           a corrosion inhibitor coating the switching fluid; and  
10           an actuating fluid, held within one or more of the cavities, that applies the  
10        forces to said switching fluid.

12. The switch of claim 11, wherein the corrosion inhibitor comprises an inert oil  
2        and a chemical reducer.

13. The switch of claim 11, wherein the corrosion inhibitor comprises Cortec  
2        VCI-369.

14. The switch of claim 11, wherein the corrosion inhibitor comprises Cortec  
2        VCI-327.

15. A switch comprising:

2           first and second mated substrates defining therebetween at least portions  
5        of a number of cavities;  
4           a plurality of wettable pads exposed within one or more of the cavities;  
6           a switching fluid, wettable to said pads and held within one or more of the  
6        cavities, that serves to open and block light paths through one or more of the  
7        cavities in response to forces that are applied to the switching fluid;  
8           a corrosion inhibitor coating the switching fluid; and  
10           an actuating fluid, held within one or more of the cavities, that applies the  
10        forces to said switching fluid.

16. The switch according to claim 15, wherein the corrosion inhibitor comprises  
2 an inert oil and a chemical reducer.

17. The switch according to claim 15, wherein the corrosion inhibitor comprises  
2 Cortec VCI-369.

18. The switch according to claim 15, wherein the corrosion inhibitor comprises  
2 Cortec VCI-327.